

by the characters of the eyes, the anterior row in *pacifica* being distinctly procurved instead of straight or slightly recurved, with the eyes obviously more widely separated and the medians clearly smaller relatively to the laterals, the clypeus higher, etc. In *pacifica* tibia I bears in front two spines instead of one, the ventral spines do not typically overlap, and tibia II is armed with a spine at the distal end.

A NOTE ON THE WINGLESS TIPULID *CHIONEA VALGA* HARRIS.

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During March, 1920, Mr. H. J. Blurton, trapper, of Mara, B. C., brought into my office some specimens of insects taken from above snow line at the north end of the Okanagan Valley. One of these insects has turned out to be the wingless tipulid *Chionea valga* Harris, and it constitutes a new record from the West. The determination was made by Dr. Nathan Banks through Dr. J. McDunnough, of Ottawa, and my attention was drawn to the article on this genus that appears in *Psyche*, Vol. XXIV, p. 142, October, 1917, by Dr. Werner Marchand of the Department of Animal Pathology, the Rockefeller Institute for Medical Research, Princeton, New Jersey. Owing to the interest of this capture I requested Mr. Blurton to give me the leading notes of his observations for record and publication. These notes follow, arranged in manuscript form.

"I have noticed them for many years in the Hunter's Range of Mountains, east of Mara, B. C., and they have always attracted my attention by their peculiarities in regard to the altitude they live at in the mountains, their mode of travel, and the weather conditions they seem to prefer. These insects seem to live principally between 5,000 and 6,500 feet above sea level, and in a country where spruce and balsam trees grow, living principally in the large, open spaces near timber line, but very seldom where timber is plentiful. When travelling over the snow they always appear to be in a great hurry, and they move in nearly straight lines from one point to another, not travelling in an erratic manner at all, but as if they had some special destination in mind. I noticed when I approached one that it would crouch down when I am near, as if it could feel the vibrations in the snow made by the weight of my snowshoes falling on the snow, and would remain motionless until I had passed. This habit is not invariable, but it happens often enough to be noticeable, showing that this species is either sensitive to vibrations in the snow or to the sounds made by my movements.

It is very noticeable that this insect only selects cold, snowy weather to travel in, and it is very active on the surface of the snow during the months of January, February, March and April, even when the temperature is below zero. If the atmospheric temperature is warm enough to make the snow surface moist they apparently do not travel. I have noticed in April that if the sun in the morning shone brightly, causing a slight thaw, there would be a few *Chionea* visible, but if the weather changed in the afternoon and became colder with a flurry of snow that large numbers of *Chionea* both males and females, came hurrying from all directions. The adults seem very sensitive to warmth and will die in a few minutes if carried in a warm hand, although if placed on the

snow before they are quite dead, they will soon commence to struggle, stretch their legs and eventually recover entirely. I also noticed that if carried in a closed match box in one of my pockets they only lived a very few hours; possibly a large male, under these circumstances, might live 3 to 4 hours. If they were walking over the snow and my warm hand was placed near them they would hurry away from it. On the other hand, they would walk quite freely over my snowshoes, which of course were cold, thus proving to me that it is warmth that they retreat from.

There is another peculiar feature in their habits that I have noticed. They have an extremely strong grip, and it is very difficult indeed to shake them loose from anything to which they are attached. For instance, it is hardly possible to shake them loose from the match-box in which I have frequently stored them when collecting, and it is equally difficult to remove them from sticks or thongs of snowshoes.

Apparently their object in travelling so rapidly over the snow is to enable the sexes to come together. When they were active on stormy days in April, I have captured numbers of both sexes, placing them in my collecting box, and it was only a few moments before copulation took place. The sexual grip is also very strong, it being retained even when placed in alcohol.

My attention has been drawn to the article in *Psyche* by Werner Marchand, who mentions that *Chionea* is affected by the warmth of the hand and that it travels in straight lines. I could have made fuller observations on this insect if I had known it was of interest. For instance, I could have found out whether copulation takes place in other months than April. It was my belief that *Chionea* was prelaceous on the snow fleas but I have changed my opinion, the snow fleas being very active in warm, thawing weather, whereas *Chionea* is not abroad in such weather except to a very limited extent."

CORRECTIONS TO MR. GUNTHERP'S SUMMARY OF WOOD'S MYRIOPODA PAPERS.

It seems desirable for the benefit of those not familiar with the literature of the subject to call attention to certain inaccuracies in Mr. Gunthorp's recent "Summary of Wood's Myriapoda Papers."*

1. Mr. Gunthorp states that Wood's first paper "described four species as new." As a matter of fact twenty new species are there described.

2. Likewise incorrect is the statement that in the second paper, "On the Chilopoda," "twenty-nine new species are included." There are really forty-five described as new.

3. It is written that Wood's paper on "New Polyzoniidæ" is "the one paper he wrote on foreign material." On the contrary, Wood's first paper, mentioned above, is based chiefly on foreign material, sixteen of the twenty new forms described being exotic; and in the second paper, on the Chilopoda, seventeen exotic species are described as new.

4. The number of species described by Dr. Wood "from elsewhere" than the United States is said to be two. The number is actually thirty-five.

*Canadian Entomologist, May, 1920, p. 112.
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